COMMENTS OF THE ENVIRONMENTAL INTEGRITY PROJECT

We appreciate this opportunity to provide comments on EPA's proposed approval of Texas's Ozone Reasonable Further Progress plan for the Houston area. Proposed Rule: Approval and Promulgation of Implementation Plans; Texas; Reasonable Further Progress Plan for the Houston-Galveston-Brazoria Ozone Nonattainment Area; 83 Federal Register 17964 (April 25, 2018)

## I. Introduction

EPA is proposing approval of the Houston ozone Reasonable Further Progress Plan for inclusion in to the Texas State Implementation Plan ("SIP"). We urge EPA to disapprove the proposed plan because it fails to meet the Clean Air Act's requirements.

Despite years of reported reductions of ozone-forming pollutants from industrial sources in the Houston area, ozone (smog) remains a persistent problem for the area's more than 7 million residents. In 2017, Houston had 21 days of unhealthy smog levels (equal to or greater than 71 parts per billion), and 2018 is shaping up to be even worse. Since April 24, 2018, the eight-county Houston region has endured 12 days with unhealthy smog levels. Houston has already had three code red days in 2018, the same number of code red days as in calendar year 2017. https://www.tceq.texas.gov/cgi-bin/compliance/monops/8hr_exceed.pl

Houston's ozone problem is not isolated to heavily industrial Houston Ship Channel: 25 of the region's 37 stationary monitors have recorded days with unhealthy levels of smog, including monitors in Brazoria, Galveston and Montgomery counties, as well as southwest Houston. https://www.tceq.texas.gov/cgi-bin/compliance/monops/8hr_4highest.pl The highest recorded ozone levels in 2018 (88 ppb) were at four different monitors: Aldine, Baytown, Texas City and Wallisville. Conroe, north of Houston, reached 85 ppb on May 15, 2018.

Many years of work aimed at reducing Houston smog have certainly resulted in some measurable benefit, including some reported emission reductions. Unfortunately, as the area's ozone monitors confirm, Houston still has a major ozone problem. Houston has not seen any gains in the ozone design value – the smog level EPA uses to determine compliance with ozone standards – since 2014.

It is well-established that episodic (non-routine) emissions are a dominant cause of the Houston area's ozone problem. To the extent that the RFP plan fails to consider these emissions, the plan is deficient.

## II. Background

In 2008, EPA revised the 8-hour ozone primary and secondary national ambient air quality standards (NAAQS) to a level of 0.075 parts per million (ppm) to better protect the public from smog pollution. 73 FR 16436 (March 27, 2008). An eight-county area around Houston, termed the "Houston-Galveston-Brazoria" ("HGB") area by EPA, was originally classified as a marginal

nonattainment area and given an attainment deadline of December 31, 2015. 77 FR 30088 and 77 FR 30160 (May 21, 2012). EPA later moved the attainment deadline forward to 20, 2015. 80 FR 12264 (March 6, 2015). EPA granted the Texas a one-year extension and moved the attainment deadline to July 20, 2016. 81 FR 26697 (May 4, 2016).

The Houston area failed to meet the July 20, 2016 attainment deadline, and was reclassified as a moderate ozone nonattainment area. 81 FR 90207 (December 14, 2016). One requirement under this new designation requires the State of Texas to demonstrate reasonable further progress ("RFP") in reducing the two key ingredients in ozone formation: volatile organic compound (VOC) and nitrogen oxide ($NO_X$) emissions. Clean Air Act Sections 172(c)(2) and 182(b)(1), and 40 CFR 51.1110.

Under EPA's rules, reasonable further progress plans must include contingency measures that will take effect without further action by the state or EPA, which includes additional controls that would be implemented if the area fails to reach the plan's milestones. Clean Air Act Section 172(c)(9)). While the Act does not specify the type of measures or quantity of emissions reductions required, EPA's policy is that implementation of these contingency measures should provide additional emissions reductions of up to 3 percent of the adjusted base year inventory in the year following the plan's milestone year.

On December 29, 2016, Texas submitted to EPA a Reasonable Further Progress SIP revision for the HGB area. The SIP revision (1) updates the 2011 base year emissions inventory; (2) demonstrates a 15% emissions reduction in ozone precursors from the 2011 base year through the 2017 attainment year; (3) demonstrates a 3% emissions reduction for contingency in 2018 if the reductions for 2017 are missed; and (4) sets the $NO_X$ and VOC motor vehicle emission budgets for transportation conformity purposes, for a 2017 attainment year.

On April 25, 2018, EPA published its intention to approve Texas's submittal. 83 FR 17964.

## III. Comments

### A. The Emissions Inventories Fail to Include All Actual Emissions

This EPA rulemaking includes, and relies upon, an update to the 2011 baseline emissions inventory. Clean Air Act Section 172(c)(3) specifies that Reasonable Further Progress include a "comprehensive, accurate, current inventory of **actual emissions from all sources of the relevant pollutant or pollutants in such area**, ..." The accuracy of the baseline emissions inventory is critical; it is the foundation on which the reasonable further progress goals are set, and it is the starting point from which reasonable further progress is measured. Without an accurate baseline emissions inventory, neither the EPA nor the State of Texas can determine whether the Houston area is making meaningful progress in reducing ozone pollution.

In the Houston area, more so than in other ozone nonattainment areas, an accurate point source emissions inventory is critical for ozone planning. That is because Houston's ozone

formation, unlike most other metro areas in the U.S., is dominated by highly reactive VOCs from petrochemical facilities. Estimates of these types of emissions, from sources such as flares, cooling towers, plastics production, storage and transport, and ethylene and propylene production, are highly uncertain. Zhou W., D. S. Cohan, and B. H. Henderson, Slower ozone production in Houston, Texas following emission reductions: evidence from Texas Air Quality Studies in 2000 and 2006, Atmos. Chem. Phys., 14, 2777–2788, 201 (March 18, 2014)

> "Unlike the mobile-dominated hydrocarbon emission compositions in many other metropolitan areas in the US, Houston emissions feature highly reactive VOCs (HRVOC), such as C2H4 and C3H6, especially in the HSC region (Kim et al., 2011; Ryerson et al., 2003; Washenfelder et al., 2010). HRVOC emissions result from flaring, fugitive emissions, cooling towers, storage/transport, plastics production, and ethylene and propylene production at petrochemical facilities (Kim et al., 2011). Emission inventories for HRVOC are known to be highly uncertain (Kim et al., 2011). Previous studies have concluded that emission inventories in the HSC underestimated HRVOC emissions by at least one order of magnitude (Cowling et al., 2007; Parrish et al., 2009; Ryerson et al., 2003)."
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> (Zhou et al., 2014, https://www.atmos-chem-phys.net/14/2777/2014/acp-14-2777-2014.pdf)

Texas originally relied on the 2011 Emissions Inventory as the starting point for developing the HGB reasonable further progress plan. The State updated the analysis year inventories and used the 2014 Texas point source Emissions Inventory as the starting point for the emissions projections upon which EPA relies in the current proposal. *See,* HGB Reasonable Further Progress SIP docket, available at: https://www.regulations.gov/document?D=EPA-R06-OAR-2017-0056-0003; Appendix 2: DEVELOPMENT OF REASONABLE FURTHER PROGRESS POINT SOURCE EMISSIONS INVENTORIES FOR THE HOUSTON-GALVESTON-BRAZORIA (HGB) NONATTAINMENT AREA. That dataset included reported ozone season daily emissions of nitrogen oxides (NOX) and volatile organic compounds (VOC) for each site in the HGB area that submitted a 2014 emissions inventory.

Episodic spikes of ozone-causing emissions from industrial sources are quantifiable and are reported by industrial sources to the State of Texas Emission Event Reporting System (STEERS). Episodic spikes in ozone-forming pollutants result from unplanned startups, shutdowns, maintenance, upsets and other unauthorized emissions. Those emissions are real and quantifiable, and they are reported by industrial sources to the TCEQ. These emissions are also tracked and included in the Texas Emissions Inventory. However, it is unclear whether these emissions are included in the Emissions Inventory ozone season NOx and VOC daily (Tons per Day) values upon which the Houston ozone RFP plan is based.

To the extent that the Texas Emissions Inventory ozone season NOx and VOC values used to develop the baseline and future year emissions inventories do not include episodic emissions,

the RFP plan fails as a matter of law because the emissions inventories fail to include all "actual" emissions. Clean Air Act Section 172(c)(3).

Removing episodic emissions from consideration in the Houston RFP plan fails to address a main driver of Houston's air quality problem. Researchers have concluded that Houston's ozone violations are often the result of large hourly ozone increases that exceed up to 100 parts per billion per hour, and that these large increases are associated with episodic hydrocarbon emission events from the Houston Ship Channel. Regulatory modeling that removes from the baseline and future emissions inventories the episodic hydrocarbon emissions that dominate Houston's ozone formation is, therefore, erroneous.

B. EPA May Not Rely on Motor Vehicle Emission Reductions that the Agency Intends to Scrap

The RFP plan relies heavily on anticipated air pollution reductions as a result of emission reductions from vehicles. The single largest anticipated vehicle emissions reduction is from the Federal Motor Vehicle Control Program, from which EPA projects a reduction of 464.25 tons per day of NOx and a reduction of 198.54 tons per day of VOC for the Houston nonattainment area. 83 Fed.Reg. 17966, Table 3: NOx and VOC Control Measures and Expected Emission Reductions (tpd) for the HGB Area, 2011 – 2017.

In April 2018, EPA announced it would reconsider and scale back standards in place to increase fuel efficiency for cars and trucks. Adopted in 2012, the standards up for revision would have required automakers to nearly double the average fuel economy of new cars and trucks, to 54.5 miles per gallon by 2025. EPA Administrator Scott Pruitt stated: "The Obama Administration's determination was wrong… Obama's EPA cut the Midterm Evaluation process short with politically charged expediency, made assumptions about the standards that didn't comport with reality, and set the standards too high." (EPA, Office of the Administrator, News Release, April 2, 2018, https://www.epa.gov/newsreleases/epa-administrator-pruitt-ghg-emissions-standards-cars-and-light-trucks-should-be)

EPA may not rely on vehicle emission reductions that the Administration has no intention to enforce. EPA may not rely on vehicle emission reductions that it contends are too high and do not comport with reality.

## IV. Conclusion

For the foregoing reasons, we urge EPA to disapprove Texas's proposed Reasonable Further Progress plan for the Houston ozone nonattainment area.